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<b>Notice of Allowability</b>	Applicant No.:	Applicant(s)
	10/086,030	HILL, ALAN
	Examiner	Art Unit
	Davienne Monbleau	2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the amendment filed on 5/12/04.
2.  The allowed claim(s) is/are 1-9.
3.  The drawings filed on 27 February 2002 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of
 Paper No./Mail Date \_\_\_\_\_.
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_.
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE**

*Response to Amendment*

The amendment filed on 5/12/04 has been entered. Claims 1, 8, and 9 have been amended. Claims 10-14 are withdrawn. Claims 1-9 are pending.

Applicant's arguments filed 5/12/04, with respect to Claims 1-9, have been fully considered and are persuasive.

In particular, the Applicant argues on page 6 that the cited prior art of record (*Partlo*) does not teach a combination electrical excitation generator and heat exchanger. *Partlo* teaches in Figure 1 a plasma generator comprising an electrical excitation generator (8) and a heat exchanger (20), but does not teach that said elements are combined together to improve the temperature stability of the plasma generator. Applicant further argues on page 6 that the cited prior art of record (*Partlo*) does not teach applying a high intensity pulsed field to induce ionization and a lower intensity electric field simultaneously. *Partlo* teaches in Figure 1 generating plasma and continually applying pulse to sustain ionization of the plasma, but does not teach simultaneously applying a separate lower electric field to maintain the E/N ratio below a certain level. This feature improves the lasing efficiency.

*Examiner's Amendment*

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

This application is in condition for allowance except for the presence of claims 10-14 to an invention non-elected without traverse. Accordingly, claims 10-14 have been cancelled.

***Allowable Subject Matter***

Claims 1-9 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding Claims 1-7, the cited prior art of record does not teach or fairly suggest a generator for generating an excited atomic state of a molecule comprising, along with the other claimed features, a combination electrical excitation generator/heat exchanger that prevents gas from heating beyond approximately 200 degrees Celsius, thereby preventing a significant number of said at least one species of molecule from changing said excited atomic state.

Regarding Claims 8 and 9, the cited prior art of record does not teach or fairly suggest a method of generating a plasma (Claim 8) or a method for producing a laser beam (Claim 9) comprising, along with the other claimed features, applying additional electromagnetic field pulses, above an ionization breakdown value of the gas, to sustain quasi-continuous ionization of the gas while simultaneously causing a continuous or quasi-continuous current flow to the gas by applying an additional electric field producing an E/N value in the gas of less than approximately 10 Townsends.

***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Davienne Monbleau*  
DNM



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